

RULE

Department of Environmental Quality Office of Air Quality and Radiation Protection Air Quality Division

Quality Assurance Procedures (LAC 33:III.6115 and 6117)(AQ128)



Under the authority of the Louisiana Environmental Quality Act, R.S. 30:2001 et seq., and in accordance with the provisions of the Administrative Procedure Act, R.S. 49:950, et seq., the secretary has amended the Air Quality Division regulations, LAC 33:III.6115 and 6117, (AQ128).

Quality assurance procedures for continuous emission monitors are incorporated into Louisiana's Air Quality regulations. These are LAC 33:III.6115 and 6117.

This action will make the Louisiana Air Quality regulations the same as the federal regulations.

This rule meets the exceptions listed in R.S. 30:2019(D)(3) and R.S.49:953(G)(3), therefore, no report regarding environmental/health benefits and social/economic costs is required.

These regulations are to become effective upon publication in the *Louisiana Register*.

Title 33

ENVIRONMENTAL QUALITY

Part III. Air

Chapter 61. Division's Source Test Manual

§6115. Performance Specification 4A—Specifications and Test Procedures for Carbon Monoxide Continuous Emission Monitoring in Stationary Sources

A. Applicability and Principle

1. Applicability

a. This specification is to be used for evaluating the acceptability of carbon monoxide (CO) continuous emission monitoring systems (CEMSs) at the time of or soon after installation and whenever specified in an applicable section of the regulations.

b. This specification is not designed to evaluate the installed CEMS performance over an extended period of time nor does it identify specific calibration techniques and other auxiliary procedures to assess CEMS performance. The source owner or operator, however, is responsible to calibrate, maintain, and operate the CEMS. To evaluate CEMS performance the administrative authority may require, under section 114 of the Clean Air Act Amendments of 1990, the source owner or operator to conduct CEMS performance evaluations at other times besides the initial test. See LAC 33:III.3125.C.

c. The definitions, installation specifications, test procedures, data reduction procedures for determining calibration drifts (CD) and relative accuracy (RA), and reporting of LAC 33:III.6105.B, C, E, F, H, and I apply to this specification.

2. Principle. Reference method (RM), CD, and RA tests are conducted to determine that the CEMS conforms to the specification.

B. Performance and Equipment Specifications

1. Data Recorder Scale. This specification is the same as LAC 33:III.6105.D.1. The CEMS shall be capable of measuring emission levels under normal conditions and under periods of short-duration peaks of high concentrations. This dual-range capability may be met using two separate analyzers, one for each range, or by using dual-range units that have the capability of measuring both levels with a single unit. In the latter case when the reading goes above the full-scale measurement value of the lower range, the higher-range operation shall be started automatically. The CEMS recorder range must include zero and a high-level value. For the low-range scale, the high-level value shall be between 1.5 times the pollutant concentration corresponding to the emission standard level and the span value. For the high-range scale, the high-level value shall be set at 2,000 ppm, as a minimum, and the range shall include the level of the span value. There shall be no concentration gap between the low- and high-range scales.

2. Interference Check. The CEMS must be shown to be free from the effects of any interferences.

3. Response Time. The CEMS response time shall not exceed 1.5 min to achieve 95 percent of the final stable value.

4. Calibration Drift. The CEMS calibration must not drift or deviate from the reference value of the calibration gas, gas cell, or optical filter by more than 5 percent of the established span value for six out of seven test days.

5. Relative Accuracy. The RA of the CEMS shall be no greater than 10 percent of the mean value of the RM test data in terms of the units of the emission standard or 5 ppm, whichever is greater. Under conditions where the average CO emissions are less than 10 percent of the standard, a cylinder gas audit may be performed in place of the RA test to determine compliance with these limits. In this case the cylinder gas

shall contain CO in 12 percent carbon dioxide as an interference check. If this option is exercised, LAC 33:III.6050 must be used to verify that emission levels are less than 10 percent of the standard.

C. Response Time Test Procedure. The response time test applies to all types of CEMS's, but will generally have significance only for extractive systems. The entire system is checked with this procedure including applicable sample extraction and transport, sample conditioning, gas analyses, and data recording. Introduce zero gas into the system. For extractive systems, the calibration gases should be introduced at the probe as near to the sample location as possible. For in-situ systems, introduce the zero gas at the sample interface so that all components active in the analysis are tested. When the system output has stabilized (no change greater than 1 percent of full scale for 30 sec), switch to monitor stack effluent and wait for a stable value. Record the time (upscale response time) required to reach 95 percent of the final stable value. Next, introduce a high-level calibration gas and repeat the procedure (stabilize, switch to sample, stabilize, record). Repeat the entire procedure three times and determine the mean upscale and downscale response times. The slower or longer of the two means is the system response time.

D. Relative Accuracy Test Procedure

1. Sampling Strategy for RM Tests, Correlation of RM and CEMS Data, Number of RM Tests, and Calculations. These are the same as that in LAC 33:III.6105.G.1-3 and 5, respectively.

2. Reference Methods. Unless otherwise specified in an applicable section of the regulation, LAC 33:III.6050 is the RM for this performance specification. When evaluating nondispersive infrared continuous emission analyzers, LAC 33:III.6050 shall use the alternative interference trap specified in LAC 33:III.6050.A. LAC 33:III.6051 or 6052 is an acceptable alternative to LAC 33:III.6050.

E. Bibliography

1. Same as in LAC 33:III.6109.D.

2. "Gaseous Continuous Emission Monitoring Systems - Performance Specification Guidelines for SO₂, NO_x, CO₂, O₂, and TRS." EPA-450/3-82-026. U.S. Environmental Protection Agency, Technical Support Division (MD-19), Research Triangle Park, N.C. 27711.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2054.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Air Quality Division, LR 22: 15 (January 1996).

§6117. Performance Specification 7—Specifications and Test Procedures for Hydrogen Sulfide Continuous Emission Monitoring Systems in Stationary Sources

A. Applicability and Principle

1. Applicability

a. This specification is to be used for evaluating the acceptability of hydrogen sulfide (H₂S) continuous emission monitoring systems (CEMSs) at the time of or soon after installation and whenever specified in an applicable section of the regulations.

b. This specification is not designed to evaluate the installed CEMS performance over an extended period of time nor does it identify specific calibration techniques and other auxiliary procedures to assess CEMS performance. The source owner or operator, however, is responsible to calibrate, maintain, and operate the CEMS. To evaluate CEMS performance the administrative authority may require, under section 114 of the Clean Air Act Amendments of 1990, the source owner or operator to conduct CEMS performance evaluations at other times besides the initial test. See LAC 33:III.3125.C.

c. The definitions, installation specifications, test procedures, data reduction procedures for determining calibration drifts (CD) and relative accuracy (RA), and reporting of LAC 33:III.6105.B, C, E, F, H, and I apply to this specification.

2. Principle. Reference method (RM), CD, and RA tests are conducted to determine that the CEMS conforms to the specification.

B. Performance and Equipment Specifications

1. Instrument Zero and Span. This specification is the same as LAC 33:III.6105.D.1.

2. Calibration Drift. The CEMS calibration must not drift or deviate from the reference value of the calibration gas or reference source by more than 5 percent of the established span value for six out of seven test days (e.g., the established span value is 300 ppm for LAC 33:III.Chapter 31.Subchapter J fuel gas combustion devices).

3. Relative Accuracy. The RA of the CEMS shall be no greater than 20 percent of the mean value of the RM test data in terms of the units of the emission standard or 10 percent of the applicable standard, whichever is greater.

C. Relative Accuracy Test Procedure

1. Sampling Strategy for RM Tests, Correlation of RM and CEMS Data, Number of RM Tests, and Calculations. These are the same as that in LAC 33:III.6105.G.1-3 and 5, respectively.

2. Reference Methods. Unless otherwise specified in an applicable section of the regulation, LAC 33:III.6053 is the RM for this performance specification.

D. Bibliography

1. U.S. Environmental Protection Agency. Standards of Performance for New Stationary Sources;

Appendix B; Performance Specifications 2 and 3 for SO₂, NO_x, CO₂, and O₂ Continuous Emission Monitoring Systems; Final Rule. 48 CFR 23608. Washington, D.C. U.S. Government Printing Office. May 25, 1983.

2. U.S. Government Printing Office. Gaseous Continuous Emission Monitoring Systems - Performance Specification Guidelines for SO₂, NO_x, CO₂, O₂, and TRS. U.S. Environmental Protection Agency. Washington, D.C. EPA-450/3-82-026. October 1982. 26 p.

3. Maines, G.D., W.C. Kelly (Scott Environmental Technology, Inc.), and J.B. Homolya. Evaluation of Monitors for Measuring H₂S in Refinery Gas. Prepared for the U.S. Environmental Protection Agency. Research Triangle Park, N.C. Contract Number 68-02-2707. 1978. 60 p.

4. Ferguson, B.B., R.E. Lester (Harmon Engineering and Testing), and W.J. Mitchell. Field Evaluation of Carbon Monoxide and Hydrogen Sulfide Continuous Emission Monitors at an Oil Refinery. Prepared for the U.S. Environmental Protection Agency. Research Triangle Park, N.C. Publication Number EPA-600/4-82-054. August 1982. 100 p.

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